



## Crack Growth Module

- Over 110 different  $K$  solutions
  - Uniform tension/bend/pressure/pin load
  - Univariant/bivariant weight function models
  - User-defined tables
  - Generalized compounding
- Multiple crack growth rate models
  - NASGRO, Walker
  - Tabular  $da/dN$  vs.  $\Delta K$  data
  - Temperature effects
- Multiple load interaction models
- Multiple load history input formats
- Load spectrum visualization, editing, cycle counting
- Multiple analysis options
  - Calculate  $K$ , life,  $da/dN$
  - Critical initial, final, or threshold crack size
- Account for residual stresses
- Cyclic shakedown for local plasticity
- Elastic-plastic crack growth analysis
- Failure assessment diagrams
- Interactive and batch modes

## Material Property Module

- Search, retrieve, plot, and curve fit data
- Import user data
- English or metric units
- Over 500 metallic materials
- 3,600 sets of FCG data
- 6,500 fracture toughness points

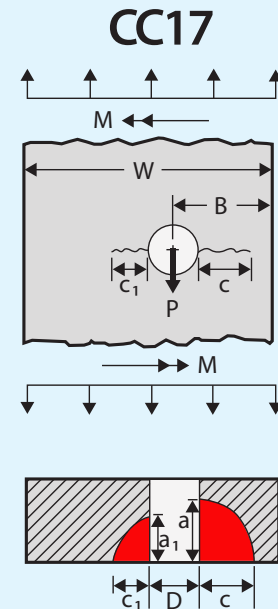
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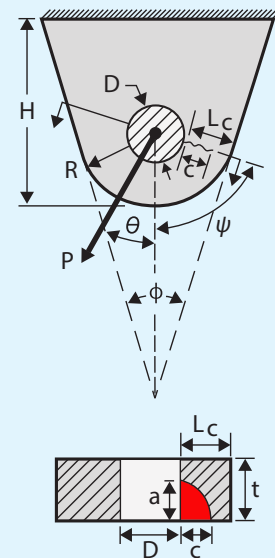
[nasgro.swri.org](http://nasgro.swri.org)



*K solution for two unequal corner cracks at offset hole in a plate.*

The NASGRO software runs on all Windows platforms. User support and training courses are available. A perpetual license for a single copy of version 10.2 is \$4,400. Organizations with multiple users should consider a site license or participation in the NASGRO Consortium. Special prices may apply for non-US companies, especially in China and India. Please contact SwRI for a specific quote.

## CC23



*K solution for a corner crack in a tapered lug with an oblique load*

## NASGRO Consortium Participants

The Aerospace Corporation  
Airbus  
Airbus Canada  
Blue Origin  
Boeing  
Bombardier  
Embraer  
GKN Aerospace  
Honda Aircraft Engines  
Honeywell  
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